

## Abstract of the Disclosure

In a radiation detector, an active matrix board is formed of switching elements of polycrystalline silicon thin film transistors produced by a poly-silicon (poly-Si) process, charge storage capacitances, insulating layers, electrodes, gate lines and data lines, on which a converting layer is formed by polycrystalline, such as CdTe and CdZnTe, having a high sensitivity with respect to light and radiation at a film-forming temperature higher than 300°C. A gate driving circuit and a signal reading-out circuit are provided on the active matrix board, and signals of the respective images are scanned to take out to the outside. Thus, by using the high heat resistant matrix process board, the radiation detector having a wide dynamic range and a high signal to noise (S/N) ratio can be obtained.